COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Division of Water Quality Programs
Ellen Gilinsky, Ph.D., Director

P.O. Box 10009 Richmond, VA 23240-0009

SUBJECT: Guidance Memo No. 06-2003
Implementation Guidance for Reissuance of the General VPDES Permit for Domestic Sewage Discharges of Less Than or Equal to 1,000 Gallons Per Day

TO: Regional Directors, Deputy Regional Directors

FROM: Ellen Gilinsky, Ph.D., Director 

DATE: April 25, 2006

COPIES: Regional Water Permit Managers, Regional Compliance and Enforcement Managers, Kyle Winter

The State Water Control Board adopted amended General VPDES Permit Regulation 9 VAC 25-110 on September 27, 2005, reissuing the General VPDES Permit for Domestic Sewage Discharges (VAG40) for another five-year term beginning August 2, 2006. Copies of the final regulation, the general permit, the fact sheet, and the registration statement with instructions are available on DEQNET under general permits in the VPDES folder. The general permit should be used to cover domestic sewage discharges of less than or equal to 1,000 GPD, consisting primarily of single-family residential treatment systems and other small domestic sewage sources where central sewage treatment facilities are not available. The purpose of this memo is to identify changes that have made to the General Permit VAG40 and to provide DEQ staff with guidance on implementation of these changes.

Electronic Copy:

An electronic copy of this guidance in PDF format is available for staff internally on DEQNET, and for the general public on DEQ's website at http://www.deq.virginia.gov/waterguidance/permits.html.

Contact Information:

Please contact Valerie Rourke, Office of Water Permit Programs, at (804) 698-4158 or varourke@deq.virginia.gov with any questions regarding the application of this guidance.

Disclaimer:

This document is provided as guidance and, as such, sets forth standard operating procedures for the agency. However, it does not mandate any particular method nor does it prohibit any particular method for the analysis of data, establishment of a wasteload allocation, or establishment of a permit limit. If alternative proposals are made, such proposals should be reviewed and accepted or denied based on their technical adequacy and compliance with appropriate laws and regulations.

Correction #1 - 05-18-06
Correction #2 - 05-26-06

1. Changes to the General Permit

Changes to the General Permit VAG40 resulting from amendment to the regulation made for reissuance are as follows:

Minor Wording Changes throughout the document: "Department" has been replaced with "DEQ".

Permit Effective Date:

- The effective date of the reissued general permit has been changed from August 1 to August 2, 2006 so that the expiration date of the previously issued general permit (August 1, 2006) and the effective date of the reissued permit do not overlap.

Part I, A. page for receiving waters where the 7Q10 flows are < 0.2 MGD:

- Total Residual Chlorine – Instantaneous Maximum Limit in the Final Effluent has been change from "Non-Detectable" to "0.016 mg/l". A quantification level of 0.1 mg/l has been added.

Part I, A. pages for receiving waters where the 7Q10 flows are < 0.2 MGD or greater than or equal to 0.2 MGD:

- "E. coli" parameter - added for facilities that do not use chlorine for disinfection and discharge to freshwater. This parameter has an Instantaneous Maximum Limit of 235/100 ml and requires continuous disinfection capability to maintain the effluent limit. Sample frequency is once per year and sample type is grab.

- "enterococci" parameter - added for discharges into saltwater or transition zones (regardless of the disinfection method). This parameter has an Instantaneous Maximum Limit of 104/100 ml and requires continuous disinfection capability to maintain the effluent limit. Sample frequency is once per year and sample type is grab.

- "Fecal Coliform" parameter - A new footnote has been added indicating that the limit applies only when the discharge is in shellfish water. Continuous disinfection capability is required to maintain the effluent limit.

Part I, B.2. Schedule of Compliance:

- For existing treatment works, replaced "on the effective date of the permit" with "as of their dates of coverage under this general permit". For constructed treatment works, replaced "the permit effective date" with: "their dates of coverage". At the beginning of the third sentence, added “For existing facilities that require upgrades,”.

Part I, B.3. Maintenance Contract:

- New language has been added which states: "For existing treatment works, the permittee shall maintain a maintenance contract during the permit term, unless an exception to the maintenance contract has been requested and granted in accordance with Part I, B.4." The same language has been added for proposed treatment works.

Part I, B.4. Operation and Maintenance Plan:

- Added "operation and maintenance" before "plan" in the second sentence.

- Deleted item "d", the requirement for the operations and maintenance plan to contain "Proof of installation of a non-resettable elapsed time meter for electric motor driven equipment".

- Changed item "e" to "d" and revised this item to state "An effluent monitoring plan in accordance with Part I A, including all sample collection, preservation and analysis procedures."

2. Registration Statement

The registration statement may be used for requesting coverage under the general permit for single family home and non-single family home facilities. For proposed single family home discharges, the combined form of the Virginia Department of Health (VDH) may be used as long as all of the information in the registration statement is provided.

The registration statement is the same except that the method of disinfection must be indicated in order that the correct monitoring requirements can be determined. As with last reissuance, the owner's indication of whether or not the facility has been built should be used to determine if antibacksliding applies. The topographic map needs to identify the location of the property to be served by the treatment works. The site diagram needs to identify the property boundaries, the discharge line location and the receiving water body.

Discharges into the following waters are not eligible for coverage under this general permit:

1. Tier 3 waters, as designated under the Water Quality Standards, 9 VAC 25-260-30 A.3.c;
2. James River between Bosher and Williams Dams;
3. Tuckahoe Creek and its tributaries (no new discharges);
4. Potomac River embayments in Virginia from the fall line at Chain Bridge to the Route 301 Bridge;
5. Aquia Creek;
6. Chickahominy Watershed above Walker's Dam;
7. The Dulles Watershed when the discharge would violate the Board's policy on treatment plants in that watershed;

8. The Occoquan Watershed when the discharge would violate the Board's policy on treatment plants in that watershed;
9. Shellfish waters where the discharge will result in condemnation by VDH and the project will have an effect on shellfish use now or in the future.

For any proposed facility or any facility which has never been covered under a VPDES permit, the following attachments are required to be submitted with the registration statement: (1) a topographic map; (2) a site diagram of the treatment works; and (3) a letter from the Health Department stating that onsite treatment options are not available.

A copy of a valid maintenance contract or an operation and maintenance plan may need to be submitted with the registration statement as discussed below.

3. Maintenance Contract Requirement

For an existing facility, the permittee is not required to submit a copy of the maintenance contract with the registration statement, but must confirm that the facility has a valid maintenance contract, and include the name of the contract provider and the expiration date of the contract on the registration statement. A permittee of an existing facility may have an approved operation and maintenance plan in lieu of a maintenance contract to be discussed in the next section.

For applicants of a new facility or an existing facility that has neither a valid maintenance contract or an approved operation and maintenance plan, the registration statement is not deemed complete until a copy of a valid maintenance contract is submitted. For an existing facility, this may involve submittal of a maintenance contract with a new contract provider or a renewed contract when the original contract has expired. For a proposed facility, a copy of the contract must be submitted to the Department prior to operation. Although formal review and approval of the maintenance contract is not required, the maintenance contract should be reviewed to verify that it contains all required items specified in the general permit. If requirements specified in the general permit for the maintenance contract are not met, a valid contract is not available onsite for inspection or, for proposed facilities, a valid contract is not obtained prior to operation, the facility is not in compliance with the general permit and enforcement action should be considered.

4. Operation and Maintenance Plan

In lieu of obtaining a maintenance contract, the permittee may opt to submit an operation and maintenance plan to the Department. Formal DEQ review and approval of a plan submitted as an exception to a maintenance contract, is required. For existing facilities that do not have an approved operation and maintenance plan, a plan must be submitted with the registration statement. For proposed facilities, a plan must be submitted and approved by the Department prior to operation. The permittee may also pursue this option anytime during the term of the general permit.

A permittee that has a previously approved, current and complete plan, need not resubmit the plan when reapplying for general permit coverage. The permittee, however, must specify any changes made to a previously approved plan on the registration statement.

Notice of an exception granted to the maintenance contract requirement and approval of the operation and maintenance plan should be made to the permittee in the transmittal letter for general permit coverage (Attachment B) or, for proposed and other facilities that pursue this option during the general permit term, in an operation and maintenance plan approval letter from the regional water permits manger (Attachment C). Should the permittee fail to implement the approved plan or if there are violations of effluent limitations, a maintenance contract can be required at the discretion of the regional water permits staff.

In light of the size and process design for systems that treat less than or equal to 1,000 gpd of domestic sewage, an exhaustive operation and maintenance plan is not expected. Attachment F contains model operation and maintenance manuals and the maintenance logs for aerobic treatment units and septic tank/sand filter systems, respectively. These documents may be shared with the applicants or permittees to assist them in the development of an operation and maintenance plan.

5. Discharge Categories, Flow Frequency Determination and Dechlorination

Within the discharge categories, Subcategory I is for discharges to receiving waters where the 7Q10 flows are less than 0.2 MGD, and Subcategory II is for discharges to receiving waters where the 7Q10 flows are equal to or greater than 0.2 MGD. Based on the receiving water information provided in the registration statement, the permit writer should determine the flow frequency in accordance with the flow determination memos for each region under Attachment G. This will determine which of the two effluent limitation pages is applicable to the facility. The major difference between the two sets of effluent limits is the way disinfection is handled. Both pages require 1.0 mg/l chlorine residual after the chlorine contact tank. If the discharge goes into a stream with a 7Q10 flow greater than or equal to 0.2 MGD, dechlorination is not required. If the discharge goes into a stream with a 7Q10 flow less than 0.2 MGD, the discharge must be dechlorinated to 0.016 mg/l total residual chlorine. If the discharge is to a dry ditch or a perennial stream with a 7Q10 less than 0.2 MGD, the limits of Part I, Page 1 of the general permit apply. Facilities that discharge into streams with a 7Q10 flow greater than or equal to 0.2 MGD will be regulated by Part I, Page 2 of the general permit. **The copy of the general permit that is sent to the permittee should only contain the applicable Part I A page. In order to avoid confusion, do not send both pages out to the same discharger.**

In cases where discharges are to tidal fresh waters or lakes, dilution necessary to reduce the chlorine concentration to or below the water quality standard is generally not available. Therefore, dechlorination would be required for all such discharges and the limits of Part I, Page

1 of the general permit would apply. If the treatment works is currently covered by the expiring general permit and they have installed dechlorination equipment, then antibacksliding prevents them from discontinuing its use regardless of the 7Q10 of the receiving waters. The choice of dechlorination or not is only applicable to new facilities or to existing ones where the equipment has not been installed.

Note that amendments to the general permit regulation for this reissuance resulted in new E. coli limits for non-chlorinated discharges to freshwater and new enterococci limits for all discharges to saltwater and transition zone waters. Amendments to the regulation also limited the applicability of Fecal Coliform limits to shellfish waters only. As discussed under Section 2 of this guidance, discharges into shellfish waters that will result in condemnation by the VDH Office of Environmental Health Services, Division of Shellfish Sanitation and affect shellfish use now or in the future, are not eligible for coverage under this general permit.

Part I, B.2. of the general permit contains a compliance schedule that allows the permittee 180 days after coverage under the general permit to upgrade the treatment works to meet the permit limits. A determination of the applicability of the compliance schedule should be made when the registration statement is reviewed.

6. General Permit

Permit numbers for existing facilities that are reissued general permit coverage, are to remain the same. CEDS will assign new permit numbers for new facilities or existing facilities that are applying for coverage under the general permit for the first time.

Individual permit numbers should be typed onto the cover page of the permit. No other changes to the language of the general permit are authorized.

Depending on the information submitted with the registration statement, there are eight possible monitoring requirement scenarios, but only one will apply to each discharge. Under Attachment H, there is a decision tree that a permit writer can use to determine the correct monitoring requirements for a discharge. Once the monitoring requirements are determined, the permit writer can select one of eight different monitoring requirement pages also under Attachment H to send to the permittee with the general permit. Note that while the intent of the monitoring requirement pages is to clarify the monitoring requirements for the permittee, these pages are not part of the permit. Therefore, it is not recommended that they be inserted into the permit or that they be indicated as part of the permit. Use of these pages will be at the discretion of the regional office.

Track each facility covered under the general permit in CEDS.

The general permit regulation requires the permittee to notify the Department at least 30 days in

advance of a proposed ownership transfer under the automatic transfer provision. Under Attachment E, there is an example change of ownership agreement form to assist a permittee engaged in the transfer process. This form should be sent to the permittee with the transmittal letter for general permit coverage. Note any change of ownership status in CEDS.

The effective date of the general permit regulation was November 30, 2005, and the effective date of general permit coverage is August 2, 2006. Regional offices may send coverage renewal reminder letters (Attachment A) to the permittees, process the registration statements, and issue/reissue general permits. However, coverage under the new general permits will not begin until August 2, 2006.

7. Relationship to Other Regulations

There are essentially two source categories of discharges covered under this general permit, including discharges from single family homes or dwellings and discharges from non-single family homes. Discharges from single family home treatment systems are also regulated by the VDH under the Alternative Discharging Sewage Treatment Regulations for Individual Single Family Dwellings (12 VAC 5-640-10 et seq.). Consequently, DEQ permits discharges from these facilities and the Local Health District inspects them. Discharges from non-single family home treatment systems are also regulated by the DEQ Sewage Collection and Treatment (SCAT) Regulations (9 VAC 25-790-10 et seq.). Inspection, as well as permitting, of these facilities is performed only by the DEQ.

Both the Alternative Discharging Sewage Treatment Regulations for Individual Single Family Dwellings (12 VAC 5-640-420.F) and the SCAT Regulations (9 VAC 25-790-450.B) contain language requiring a 500-foot separation distance between effluent discharge points of separate treatment systems. If the proposed treatment system utilizes aerobic biological treatment followed by sand filtration, the VDH regulation allows the separation distance to be reduced to 250 feet. VDH is responsible for enforcing the separation distance requirement for discharges from single family home treatment systems, and DEQ for discharges from non-single family home treatment systems.

Because the general permit regulation does not specify a minimum separation distance between discharges and most permittees are not familiar with the requirements of other regulations discussed above, a question has been added to the registration statement requesting the registrant to verify the presence of another VPDES permitted discharge within 500 feet of the discharge identified in the registration statement. This information is not required by the general permit regulation. Therefore, the registration statement may be deemed completed without it. However, should the registrant confirm that there is another VPDES permitted discharge within 500 feet of the discharge identified on the registration statement, Regional Water Permit Staff should then inspect the existing facility or proposed facility location before issuing permit coverage, particularly for non-single family home treatment systems. This same response will alert the VDH of any need to inspect minimum separation distance for single family home treatment systems.

8. Coordination with Office of Wastewater Engineering

Coordination with the DEQ Office of Wastewater Engineering is essential in the registration process. It is important that owners understand that they have a responsibility under state law to obtain a certificate to construct (CTC) and a certificate to operate (CTO) the treatment works.

Non-single family home facilities are subject to the CTC and CTO requirements contained in the SCAT Regulations. Permit writers should coordinate with the area engineer for their region on issues regarding plans and specifications, operation and maintenance manuals, CTCs and CTOs. Detailed plans and specifications, although not required to register for permit coverage, may be requested by the agency in accordance with Part II D. of the general permit.

In accordance with the VDH Alternative Discharging Regulation (12 VAC 5-640-220), the VDH is responsible for issuing CTCs and CTOs for single family home facilities. VDH has indicated that they would prefer not to receive copies of the CTCs and CTOs issued by DEQ for non-single family home facilities.

9. Coordination with VDH

The DEQ regional offices will have contact with the VDH Office of Drinking Water (VDH-ODW) for sewage discharges less than or equal to 1,000 gpd from single family home treatment systems, and with the VDH Office of Environmental Health Services, Division of Shellfish Sanitation (VDH-DSS) for all domestic sewage discharges less than or equal to 1,000 gpd to waters below the fall zone (except the Chowan Basin). For single family home treatment systems, coordination may be needed with both the VDH-ODW and VDH-DSS. All correspondence with the VDH-ODW will be with the VDH-ODW field offices, not with the central office. Correspondence with the VDH-DSS should only be with their office in Richmond. Contact information for VDH-ODW field offices and the VDH-DSS are provided under Attachment I.

The Local Health District provides the letter required to be attached to the registration statement of this general permit, indicating that an on-site system is not feasible for treatment of domestic sewage. Therefore, it is not necessary to send copies of the registration statement to the VDH-ODW. However, a copy of the registration statement for all domestic sewage discharges less than 1,000 gpd below the fall zone (except the Chowan Basin), must be sent to the VDH-DSS. A copy of the transmittal letter for this general permit should be sent to the Local Health District to notify them when a discharge from a single family home treatment system has been covered. The transmittal letter for general permit coverage (Attachment B) has been modified to specify characteristics of the receiving stream, including 7Q10, freshwater or salt/transition zone, and shellfish or non-shellfish water, to indicate what limits apply to the discharge. It is suggested that a copy of the monitoring requirements page discussed under item 6 above (see Attachment H), be attached to the copy of the transmittal letter sent to the Local Health District to further clarify the limits for each discharge.

10. Inspection and Compliance

Since the general permit does not require reporting of the monitoring results, no DMR is sent with the permit. The permittee is required to conduct the monitoring and keep the results available for inspection by DEQ or the Local Health District. A copy of a valid maintenance contract or an approved operation and maintenance plan (where an exemption has been granted to the maintenance contract requirement) must be maintained onsite and made available for inspection.

As discussed under item 7 above, the Local Health District will be responsible for inspections and compliance of single family home treatment systems, while the DEQ will be responsible for inspections and compliance of non-single family home treatment systems. These facilities should be inspected at least once every five years.

11. Changes to CEDS

Changes and updates to CEDS that are needed routinely and in response to recent amendments of the permit regulation, have been submitted to the CEDS Steering Committee for evaluation and prioritization. Once these changes and updates become effective and/or are functional, the OWPP will provide further notice and CEDS implementation guidance, as needed, to the Regional Water Permit Staff.

12. On-line Registration Statement

The Office of Water Permit Programs supports the concept of an on-line registration statement for future general permits. To gauge the interest of the regulated community in on-line registration, and to determine the level of technology currently used by the regulated community, OWPP has provided a web address for an on-line survey, as well as a paper version (Attachment D), for regional permit staff to forward to permittees with the reissuance reminder letter and registration statement. Responses received by the regional offices should be compiled and submitted in a single batch to OWPP by October 31, 2006.

ATTACHMENTS

A. Coverage Renewal Reminder Letter

B. Transmittal Letter for General Permit Coverage

C. Operation and Maintenance Plan Approval Letter

D. Survey for General Permit On-line Registration Statement

E. Change of Ownership Agreement Form

F. Model Operation and Maintenance Manuals and Maintenance Logs

G. Flow Determination Memos

H. Monitoring Requirements - Decision Tree and 8 Monitoring Pages

I. Contact Information for VDH-ODW Field Offices and VDH-DSS

ATTACHMENT A

Coverage Renewal Reminder Letter

Coverage Renewal Reminder Letter

Regional DEQ Letterhead
Date

Owner's Name
Owner's Address

Re: General VPDES Permit No. VAG40**00000[*insert individual discharge identification number*]**
Facility Name
Facility Address

Dear Permittee:

This letter is to remind you that your General VPDES Permit coverage will expire on August 1, 2006. If you wish to continue discharging, you must receive coverage under the reissued general permit. The General VPDES Permit Regulation requires that a complete registration statement be filed prior to August 1, 2006. Early submissions are welcome and will better enable us to complete processing before permit expiration. The registration statement and instructions are enclosed.

A copy of a valid maintenance contract must be attached with the complete registration statement for new facilities not previously covered by this permit, or for an existing facility with a new maintenance contract provider or a renewed contract following expiration of the original contract. If you would like to request an exception to the maintenance contract requirement, please submit an Operation and Maintenance Plan with the registration statement to DEQ for review and approval. Respond to only the first question of Section 11 and provide only applicable information requested under Section 12 of the registration statement. Coverage under the general permit cannot be issued until the Plan is approved. If you have a previously approved Plan, do not resubmit the Plan but please note on the registration statement any changes that have occurred to the Plan since the time you last applied for coverage under this permit.

DEQ is considering the development of software that will allow future registration for general permit coverage over the Internet. To determine the level of interest in this program, and to determine the level of information technology currently in use by permittees, we ask that you either complete the survey on-line between May 1, 2006 and September 1, 2006 or complete the enclosed survey and return it with your registration statement. The web address for the on-line survey is at http://www.deq.virginia.gov/vpdes/survey.php and the PIN is 620547. If you have responsibility for more than one permitted facility, please complete the survey for each facility.

Please contact this office if you have any questions.

Sincerely,

Water Permit Manager

Enclosures: Registration statement with instructions
Survey for General Permit On-line Registration Statement

ATTACHMENT B

Transmittal Letter for General Permit Coverage

Transmittal Letter for General Permit Coverage

Regional DEQ Letterhead
Date

Owner's Name
Owner's Address

RE: General VPDES Permit No. VAG40**0000[***insert individual discharge identification number***]**
[**Facility Name]**
[Facility Address]
[Receiving Stream]; 7Q10 [0.2 MGD or ≥ 0.2 MGD]; [freshwater or salt/transition zone water]; [shellfish or non-shellfish water]

Dear Permittee:

We have reviewed your Registration Statement and determined that this domestic sewage treatment facility is hereby covered under the referenced General VPDES Permit. A copy of the permit is enclosed. Please read it carefully, because you are responsible for assuring that the treatment facility is operated and maintained in accordance with the limitations and conditions of the General Permit. Also enclosed is a form which may be used to request an ownership transfer for the General VPDES permit. If you wish to have the permit ownership transferred, please complete the form and return it to this office accordingly.

Receipt of this General VPDES Permit does not relieve any owner of the responsibility to comply with any other statute or regulations, including applicable regulations of the Department of Health adopted pursuant to §§ 32.1-163 and 32.1-164 of the Code of Virginia. Specifically, for owners of single family homes, receipt of this general permit does not relieve any owner from the responsibility to comply with the Department of Health's Alternative Discharging Sewage Treatment Regulations for Individual Single Family Dwellings (Virginia Regulation 12 VAC 5-640-10 et seq.).

[***Insert the following paragraph only if the permittee requested an exception to the maintenance contract requirement by submitting an Operation and Maintenance Plan, and the plan was reviewed and approved***]
Based on the review of the Operation and Maintenance Plan (Plan) submitted with the registration statement, exception to the maintenance contract requirement is granted and the Operation and Maintenance Plan submitted with the registration statement is approved. Should you fail to implement the approved Plan, or if there are violations of effluent limitations, the Department reserves the right to require you to obtain a maintenance contract.

[***Insert the following paragraph only if the permittee has a previously approved Operation and Maintenance Plan and changes to the Plan were noted on the registration statement.***] According to our records, your facility has an approved Operation and Maintenance Plan (Plan) in lieu of a valid maintenance contract. Changes made to the Plan as noted on your registration statement for permit coverage, have been reviewed and approved and are, hereafter, considered part of the original approved Plan.

If you have any questions, please do not hesitate to contact us.

Sincerely,

Water Permit Manager

Enclosures: Permit No. VAG40**0000**
Change of Ownership Agreement Form
[Monitoring Requirements for the Discharge from Your Facility (*Optional*)]

cc: [Local Health District (*for discharge from single-family home treatment systems only)*]

Corrected 05-18-06

ATTACHMENT C

Operation and Maintenance Plan Approval Letter

Operation and Maintenance Plan Approval Letter

Regional DEQ Letterhead
Date

Owner's Name
Owner's Address

RE: General VPDES Permit No. VAG40**0000[*insert individual discharge identification number*]**
Facility Name

Facility Address

Dear Permittee:

In accordance with the referenced permit special condition in Part I. B.4, we have received your request for an exception to the maintenance contract requirement and a copy of the Operation and Maintenance Plan for your domestic sewage treatment works. Based on our review, exception to the maintenance contract requirement is granted and the Operation and Maintenance Plan is approved through this letter. Should you fail to implement the approved Plan, or if there are violations of effluent limitations, the Department reserves the right to require you to obtain a maintenance contract.

If you have any questions, please do not hesitate to contact us.

Sincerely,

Water Permit Manager

cc: OWE
Local Health District

ATTACHMENT D

Survey for General Permit On-line Registration Statement

Survey for General Permit On-line Registration Statement

If you have e-mail capability or expect to have it within the next five years, please complete this survey and return it with your completed registration statement. Circle the item below each question that best fits your circumstances or preferences. Thank you.

1. What do you use to connect to the internet?
   a. dial-up modem - 56 Kbps
   b. dial-up modem - <56 Kbps
   c. no connection
   d. T1- 1.54 Mbps
   e. DSL – 128 Kbps
   f. T3 - 45Mbps
   g. Cable modem

2. Are you concerned about the security/privacy of your data on the internet?
   a. Very concerned
   b. Somewhat concerned
   c. A little concerned
   d. Not concerned

3. What operating system do you use for your computer?
   a. Windows 95
   b. Windows 98
   c. Windows 2000
   d. Windows XP
   e. Unix
   f. Mac
   g. Other

4. What do you use as an internet browser?
   a. Internet Explorer
   b. Netscape Navigator
   c. Other
   d. Not applicable

5. What word processing software do you use for your computer?
   a. MS Office 97
   b. MS Office 2000
   c. MS Office XP
   d. Corel Word Perfect
   e. Other
   f. Not applicable

6. Would you be interested in registering for coverage under this general permit electronically rather than on hard copy?
   a. Interested
   b. Somewhat interested
   c. Not interested

ATTACHMENT E

Change of Ownership Agreement Form

Change of Ownership Agreement Form

Note to Permittee: Please submit a completed copy of this form to your local Health Department and the DEQ Regional Office so that it is received AT LEAST 30 DAYS PRIOR TO A PROPERTY TRANSFER.

RE: Change of Ownership – General VPDES Permit VAG40_____
For Domestic Sewage Discharges ≤ 1,000 Gallons Per Day
Name of permitted facility: _____
County: _____

TO: Virginia Department of Environmental Quality
Regional Office Address

We, the undersigned, do hereby agree to the transfer of coverage, responsibility, and liability under the General VPDES Permit identified above, to be effective as of _____
Date*

Current Owner(s): I (We) hereby agree to the transfer of ownership modification to the referenced General VPDES Permit.

Printed Name: _____	Printed Name: _____
Address: _____	Address: _____
_____	_____
Telephone # ( ) _____	Telephone # ( ) _____
Signature: _____	Signature: _____
Date: _____	Date: _____

New Owner(s): I (We) hereby agree to the transfer of ownership modification to the referenced General VPDES Permit.

Printed Name: _____	Printed Name: _____
Address: _____	Address: _____
_____	_____
Telephone # ( ) _____	Telephone # ( ) _____
Signature: _____	Signature: _____
Date: _____	Date: _____

* Effective date of property transfer must be at least 30 days from the date this form is received at the DEQ Regional Office and the respective Health Department Office.

ATTACHMENT F

Model Operation and Maintenance Manuals and Maintenance Logs

Operation and Maintenance Manual for Aerobic Treatment Units

_____

Facility Name

1. Maintain treatment unit according to the manufacturer's instructions and document all repairs and maintenance on the attached log. A copy of this owner's manual for all units will be maintained by the owner for reference.

2. Inspect unit sludge levels once per 5 years. Pump out sludge when necessary.

   Dates of sludge pumping _____, _____, _____

   Volume of sludge pumped _____, _____, _____

3. Once per week, check chlorine and dechlorination tablets and add tablets as necessary. Shake down tubes at least weekly, discard and replace disintegrated tablets as needed.

4. Once per week, check all electrical equipment, and document problems, repairs and maintenance on the Maintenance Log.

5. Immediately repair the unit when any alarms are activated and document the problem and repairs on the Maintenance Log.

6. Sample for permit listed parameters once per year in accordance with the instruction from the commercial laboratory to ensure that the sampling and holding requirements are consistent with Part I of the permit. Maintain results of sampling data, including date and time of sampling with the Maintenance Log.

7. Maintain dated receipts for all chemical or equipment purchased, and maintenance performed.

8. Maintain file with name and contact information for mechanical and electrical maintenance contractors, sampling and testing contractors.

_____, _____

Owner Signature Date

Weekly Maintenance Log Aerobic Treatment Units

Check boxes or make notes as applicable

Date	Operator Initials	Chlorine Units		Dechlorination Unit		Electrical Pumps, Motors Operating	Alarm Activated-- Repairs Made	Note any other problems, problems, repairs and maintenance with system and the visual quality of the discharge
		Problems Noted	Tablets Added	Problems Noted	Tablets Added			

Operation and Maintenance Manual for Septic Tank Sand Filters

_____

Facility Name

1. Maintain all manufacturer's instructions and document all repairs and maintenance on the attached log. A copy the owner's manuals will be maintained for all treatment units by the owner for reference.

2. Inspect septic tank sludge levels once per 5 years. Pump septic tank sludge when necessary.

   Dates of septic tank inspection _____, _____, _____

   Dates of septic tank pumping _____, _____, _____

   Volume of septic tank pumping _____, _____, _____

3. Once per week, check chlorine and dechlorination tablets and document on Maintenance Log. Shake down tablets, discard and replace disintegrated tablets as needed.

4. Rake sand, as needed, if the sand filter is open to the atmosphere.

5. Once per week, check all electrical equipment and document problems, repairs and maintenance on the Maintenance Log.

6. Once per year, sample for permit listed parameters in accordance with the instruction from the commercial laboratory to ensure that the sampling and holding requirements are consistent with Part I of the permit. Maintain results of sampling data, including date and time of sampling with the Maintenance Log.

7. Maintain dated receipts for all chemical or equipment purchased, and maintenance performed.

8. Maintain file with name and contact information for mechanical and electrical maintenance contractors, sampling and testing contractors

_____, _____

Owner Signature Date

Weekly Maintenance Log Septic Tank Sand Filters

Check boxes or make notes as applicable

Date	Operator Initials	Chlorine Units		Dechlorination Unit		Rake Sand Filter	Electrical Pumps, Motors Operating	Note any other problems, problems, repairs and maintenance with system and the visual quality of the discharge
		Problems Noted	Tablets Added	Problems Noted	Tablets Added			

ATTACHMENT G

Flow Determination Memos

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: General Permit Development
Critical Drainage Area and Runoff Rate - PRO

TO: Lily Choi, OWPP

FROM: Paul E. Herman, P.E., WQAP

DATE: March 30, 2001

COPIES: Durwood Willis, File

When reviewing the vast number of VPDES General Permits to be reissued and stream flows are needed in order to establish effluent limits, the following procedures should be considered prior to assigning flow frequencies to the receiving stream.

1. Locate the discharge point(s) on the topo map(s) and determine whether the receiving stream is perennial (solid blue line), tidal (evidence of tidal flats on the topo), intermittent (dotted/dashed blue line), or a dry ditch (no blue line).

2. If the discharge is to an intermittent stream or a dry ditch the flow frequencies are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and harmonic mean. Use dilution ratios for tidal waters.

3. If the discharge enters a perennial stream, determine the major river basin to which the stream drains. The rivers considered as such for PRO are the Potomac, Rappahannock, Chesapeake Bay, York, Middle James/Appomattox, Lower James, Nottoway/Meherrin, Blackwater, and Roanoke.

4. Once the river basin has been identified, determine the drainage area above the discharge point and multiply it by the runoff rate established for the basin. Basin runoff rates are listed below:

River Basin	7Q10 Runoff Rate (cfs/mi^2)
Potomac	0.0499
Rappahannock	0.0324
Chesapeake Bay	0.0433
York	0.0220
Middle James/Appomattox	0.0064
Lower James	0.0771
Nottoway/Meherrin	0.0049
Blackwater	0.0
Roanoke	0.0823

5. Using the established runoff rates provides an estimate of the receiving streams **7Q10**.

6. For a critical flow of 0.2 MGD (0.31 cfs) a critical drainage area has been established for each basin and is listed below:

River Basin	Critical Drainage Area (mi^2)
Potomac	6.21
Rappahannock	9.57
Chesapeake Bay	7.16
York	14.09
Middle James/Appomattox	48.44
Lower James	4.02
Nottoway/Meherrin	62.96
Blackwater	-----
Roanoke	3.76

The runoff rates for each basin were determined using data published in the USGS Water Supply Paper 2374 entitled "Low-Flow Characteristics of Streams in Virginia". The publication lists the low flow measurement sites in each basin and provides the sites drainage area and 2Q10 and 7Q10, and provides the continuous record gage used during the correlation.

The drainage area and 7Q10 for each low flow site in the portion of the basin encompassed by PRO's borders was used in establishing the runoff rates for the basin. For example, there are 24 low flow sites listed in the publication where a 7Q10 value was provided for a stream in the Nottoway/Meherrin River Basin. Of the 24, 11 lie within the PRO's borders. The runoff rates were determined for each of the 11 sites in PRO and an average runoff rate was calculated for the Nottoway/Meherrin Basin. The same procedure was used to establish the runoff rates for the remaining basins in PRO with one exception. A very small portion of the Roanoke Basin is within PRO's borders and there were no sites in this portion. Therefore, the runoff rates and critical drainage area calculated for the sites in the Roanoke Basin within SCRO's borders were used for PRO.

The runoff rates listed above for the basins lying wholly or partially within PRO may be used for estimating 7Q10 flows for VPDES General Permits whose receiving stream(s) lie within the specific basin. The material provided herein shall not be used for any purpose other than screening acceptability of VPDES General Permits for discharge flows less than or equal to 1000 gallons per day.

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: General Permit Development
Critical Drainage Area and Runoff Rate - SCRO

TO: Lily Choi, OWPP

FROM: Paul E. Herman, P.E., WQAP

DATE: April 2, 2001

COPIES: Durwood Willis, File

When reviewing the vast number of VPDES General Permits to be reissued and stream flows are needed in order to establish effluent limits, the following procedures should be considered prior to assigning flow frequencies to the receiving stream.

1. Locate the discharge point(s) on the topo map(s) and determine whether the receiving stream is perennial (solid blue line), intermittent (dotted/dashed blue line), or a dry ditch (no blue line).

2. If the discharge is to an intermittent stream or a dry ditch the flow frequencies are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and harmonic mean.

3. If the discharge enters a perennial stream, determine the major river basin to which the stream drains. The rivers considered as such for SCRO are the James, Appomattox, Nottoway/Meherrin, Roanoke, and Smith/Dan.

4. Once the river basin has been identified, determine the drainage area above the discharge point and multiply it by the runoff rate established for the basin. Basin runoff rates are listed below:

River Basin	7Q10 Runoff Rate (cfs/mi^2)
James	0.0562
Appomattox	0.0341
Nottoway/Meherrin	0.0142
Roanoke	0.0823
Smith/Dan	0.0745

5. Using the established runoff rates provides an estimate of the receiving streams **7Q10**.

6. For a critical flow of 0.2 MGD (0.31 cfs) a critical drainage area has been established for each basin and is listed below:

River Basin	Critical Drainage Area (mi^2)
James	5.52
Appomattox	9.09
Nottoway/Meherrin	21.83
Roanoke	3.77
Smith/Dan	4.16

The runoff rates for each basin were determined using data published in the USGS Water Supply Paper 2374 entitled "Low-Flow Characteristics of Streams in Virginia". The publication lists the low flow measurement sites in each basin and provides the sites drainage area and 2Q10 and 7Q10, and provides the continuous record gage used during the correlation.

The drainage area and 7Q10 for each low flow site in the portion of the basin encompassed by SCRO's borders was used in establishing the runoff rates for the basin. For example, there are 24 low flow sites listed in the publication where a 7Q10 value was provided for a stream in the Nottoway/Meherrin River Basin. Of the 24, 7 lie within the SCRO's borders. The runoff rates were determined for each of the 7 sites in SCRO and an average runoff rate was calculated for the Nottoway/Meherrin Basin. The same procedure was used to establish the runoff rates for the remaining basins in SCRO.

The runoff rates listed above for the basins lying wholly or partially within SCRO may be used for estimating 7Q10 flows for VPDES General Permits whose receiving stream(s) lie within the specific basin. The material provided herein shall not be used for any purpose other than screening acceptability of VPDES General Permits for discharge flows less than or equal to 1000 gallons per day.

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: General Permit Development
Critical Drainage Area and Runoff Rate - SWRO

TO: Lily Choi, OWPP

FROM: Paul E. Herman, P.E., WQAP

DATE: March 30, 2001

COPIES: Durwood Willis, File

When reviewing the vast number of VPDES General Permits to be reissued and stream flows are needed in order to establish effluent limits, the following procedures should be considered prior to assigning flow frequencies to the receiving stream.

1. Locate the discharge point(s) on the topo map(s) and determine whether the receiving stream is perennial (solid blue line), intermittent (dotted/dashed blue line), or a dry ditch (no blue line).

2. If the discharge is to an intermittent stream or a dry ditch the flow frequencies are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and harmonic mean.

3. If the discharge enters a perennial stream, determine the major river basin to which the stream drains. The rivers considered as such for SWRO are the Yadkin, New, Clinch, Powell, Holston, and Big Sandy.

4. Once the river basin has been identified, determine the drainage area above the discharge point and multiply it by the runoff rate established for the basin. Basin runoff rates are listed below:

River Basin	7Q10 Runoff Rate (cfs/mi^2)
Yadkin	0.1567
New	0.2094
Holston	0.1453
Clinch	0.0462
Powell	0.0660
Big Sandy	0.0133

5. Using the established runoff rates provides an estimate of the receiving streams **7Q10**.

6. For a critical flow of 0.2 MGD (0.31 cfs) a critical drainage area has been established for each basin and is listed below:

River Basin	Critical Drainage Area (mi^2)
Yadkin	1.98
New	1.48
Holston	2.13
Clinch	6.71
Powell	4.70
Big Sandy	23.31

The runoff rates for each basin (except the Holston) were determined using data published in the USGS Water Supply Paper 2374 entitled "Low-Flow Characteristics of Streams in Virginia". This publication lists the low flow measurement sites in each basin and provides the sites drainage area and 2Q10 and 7Q10, and provides the continuous record gage used during the correlation. The publication listed only two sites for the entire Holston basin. Therefore, site specific measurement data collected at VPDES permit sites in the basin were used in addition to the available data from the publication. The site specific measurements were correlated with continuous record gages in the basin and the 7Q10 for each site was determined from the regression line.

The drainage area and 7Q10 for each low flow site in the portion of the basin encompassed by SWRO's borders was used in establishing the runoff rates for the basin. For example, there are 15 low flow sites listed for the New River Basin in the publication. Of the 15, 10 lie within the SWRO's borders. The runoff rates were determined for each of the 10 sites in SWRO and an average runoff rate was calculated for the New Basin. The same procedure was used to establish the runoff rates for the remaining basins in SWRO with two exceptions. The first is the Holston Basin which was addressed above. The second is the Yadkin Basin which is based on only one site due to the size of its watershed in Virginia.

The runoff rates listed above for the basins lying wholly or partially within SWRO may be used for estimating 7Q10 flows for VPDES General Permits whose receiving stream(s) lie within the specific basin. The material provided herein shall not be used for any purpose other than screening acceptability of VPDES General Permits for discharge flows less than or equal to 1000 gallons per day.

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: General Permit Development
Critical Drainage Area and Runoff Rate - TRO

TO: Lily Choi, OWPP

FROM: Paul E. Herman, P.E., WQAP

DATE: April 2, 2001

COPIES: Durwood Willis, File

When reviewing the vast number of VPDES General Permits to be reissued and stream flows are needed in order to establish effluent limits, the following procedures should be considered prior to assigning flow frequencies to the receiving stream.

1. Locate the discharge point(s) on the topo map(s) and determine whether the receiving stream is perennial (solid blue line), tidal (evidence of tidal flats on topo), intermittent (dotted/dashed blue line), or a dry ditch (no blue line).

2. If the discharge is to an intermittent stream or a dry ditch the flow frequencies are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and harmonic mean. Use dilution ratios if the stream is tidal.

3. If the discharge enters a perennial stream, determine the major river basin to which the stream drains. The rivers considered as such for TRO are the Lower James, Nottoway/Meherrin, Blackwater, Dismal Swamp and points south and east, Chesapeake Bay, and Eastern Shore.

4. Once the river basin has been identified, determine the drainage area above the discharge point and multiply it by the runoff rate established for the basin. Basin runoff rates are listed below:

River Basin	7Q10 Runoff Rate (cfs/mi^2)
Lower James	0.0626
Nottoway/Meherrin	0.000132
Blackwater	0.0
Dismal Swamp	0.0
Chesapeake Bay	0.0
Eastern Shore	0.0758

5. Using the established runoff rates provides an estimate of the receiving streams **7Q10**.

6. For a critical flow of 0.2 MGD (0.31 cfs) a critical drainage area has been established for each basin and is listed below:

River Basin	Critical Drainage Area (mi^2)
Lower James	4.95
Nottoway/Meherrin	2,348
Blackwater	----
Dismal Swamp	----
Chesapeake Bay	----
Eastern Shore	4.09

The runoff rates for each basin were determined using data published in the USGS Water Supply Paper 2374 entitled "Low-Flow Characteristics of Streams in Virginia". The publication lists the low flow measurement sites in each basin and provides the sites drainage area and 2Q10 and 7Q10, and provides the continuous record gage used during the correlation.

The drainage area and 7Q10 for each low flow site in the portion of the basin encompassed by TRO's borders was used in establishing the runoff rates for the basin. For example, there are 24 low flow sites listed in the publication where a 7Q10 value was provided for a stream in the Nottoway/Meherrin River Basin. Of the 24, 6 lie within the TRO's borders. The runoff rates were determined for each of the 6 sites in TRO and an average runoff rate was calculated for the Nottoway/Meherrin Basin. The same procedure was used to establish the runoff rates for the remaining basins in TRO with one exception. The Dismal Swamp Basin and the area south and east did not have any sites listed in the publication. Due to the swampy and/or tidal nature of this portion of the State, the runoff rate was set to 0.0 cfs/mi^2.

The runoff rates listed above for the basins lying wholly or partially within TRO may be used for estimating 7Q10 flows for VPDES General Permits whose receiving stream(s) lie within the specific basin. The material provided herein shall not be used for any purpose other than screening acceptability of VPDES General Permits for discharge flows less than or equal to 1000 gallons per day.

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: General Permit Development
Critical Drainage Area and Runoff Rate - VRO

TO: Lily Choi, OWPP

FROM: Paul E. Herman, P.E., WQAP

DATE: April 2, 2001

COPIES: Durwood Willis, File

When reviewing the vast number of VPDES General Permits to be reissued and stream flows are needed in order to establish effluent limits, the following procedures should be considered prior to assigning flow frequencies to the receiving stream.

1. Locate the discharge point(s) on the topo map(s) and determine whether the receiving stream is perennial (solid blue line), intermittent (dotted/dashed blue line), or a dry ditch (no blue line).

2. If the discharge is to an intermittent stream or a dry ditch the flow frequencies are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and harmonic mean.

3. If the discharge enters a perennial stream, determine the major river basin to which the stream drains. The rivers considered as such for VRO are the North Fork Shenandoah, South Fork Shenandoah, Shenandoah, Rappahannock, and James. Discharges to the Upper Potomac should be included in the North Fork Shenandoah.

4. Once the river basin has been identified, determine the drainage area above the discharge point and multiply it by the runoff rate established for the basin. Basin runoff rates are listed below:

5. Using the established runoff rates provides an estimate of the receiving streams **7Q10**.

River Basin	7Q10 Runoff Rate (cfs/mi^2)
N.F. Shenandoah	0.0861
S.F. Shenandoah	0.0255
Shenandoah	0.1404
Rappahannock	0.0183
James	0.0661

6. For a critical flow of 0.2 MGD (0.31 cfs) a critical drainage area has been established for each basin and is listed below:

River Basin	Critical Drainage Area (mi^2)
N.F. Shenandoah	3.60
S.F. Shenandoah	12.2
Shenandoah	2.21
Rappahannock	16.9
James	4.69

The runoff rates for each basin were determined using data published in the USGS Water Supply Paper 2374 entitled "Low-Flow Characteristics of Streams in Virginia". This publication lists the low flow measurement sites in each basin and provides the sites drainage area and 2Q10 and 7Q10, and provides the continuous record gage used during the correlation.

The drainage area and 7Q10 for each low flow site in the portion of the basin encompassed by VRO's borders was used in establishing the runoff rates for the basin. For example, there are 69 low flow sites listed in the publication where a 7Q10 value was provided for a stream in the James Basin. Of the 69, 15 lie within the VRO's borders. The runoff rates were determined for each of the 15 sites in VRO and an average runoff rate was calculated for the James Basin. The same procedure was used to establish the runoff rates for the remaining basins in VRO. Discharges to streams in a basin not listed above will be handled on a case-by-case basis.

The runoff rates listed above for the basins lying wholly or partially within VRO may be used for estimating 7Q10 flows for VPDES General Permits whose receiving stream(s) lie within the specific basin. The material provided herein shall not be used for any purpose other than screening acceptability of VPDES General Permits for discharge flows less than or equal to 1000 gallons per day.

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: General Permit Development
Critical Drainage Area and Runoff Rate - WCRO

TO: Lily Choi, OWPP

FROM: Paul E. Herman, P.E., WQAP

DATE: March 30, 2001

COPIES: Durwood Willis, File

When reviewing the vast number of VPDES General Permits to be reissued and stream flows are needed in order to establish effluent limits, the following procedures should be considered prior to assigning flow frequencies to the receiving stream.

1. Locate the discharge point(s) on the topo map(s) and determine whether the receiving stream is perennial (solid blue line), intermittent (dotted/dashed blue line), or a dry ditch (no blue line).

2. If the discharge is to an intermittent stream or a dry ditch the flow frequencies are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and harmonic mean.

3. If the discharge enters a perennial stream, determine the major river basin to which the stream drains. The rivers considered as such for WCRO are the Yadkin, New, James, Roanoke, and Smith/Dan.

4. Once the river basin has been identified, determine the drainage area above the discharge point and multiply it by the runoff rate established for the basin. Basin runoff rates are listed below:

River Basin	7Q10 Runoff Rate (cfs/mi^2)
Yadkin	0.1567
New	0.1542
James	0.0736
Roanoke	0.0822
Smith/Dan	0.2557

5. Using the established runoff rates provides an estimate of the receiving streams **7Q10**.

6. For a critical flow of 0.2 MGD (0.31 cfs) a critical drainage area has been established for each basin and is listed below:

River Basin	Critical Drainage Area (mi^2)
Yadkin	1.98
New	2.01
James	4.21
Roanoke	3.77
Smith/Dan	1.21

The runoff rates for each basin were determined using data published in the USGS Water Supply Paper 2374 entitled "Low-Flow Characteristics of Streams in Virginia". This publication lists the low flow measurement sites in each basin and provides the sites drainage area and 2Q10 and 7Q10, and provides the continuous record gage used during the correlation.

The drainage area and 7Q10 for each low flow site in the portion of the basin encompassed by WCRO's borders was used in establishing the runoff rates for the basin. For example, there are 15 low flow sites listed for the New River Basin in the publication. Of the 15, 5 lie within the WCRO's borders. The runoff rates were determined for each of the 5 sites in WCRO and an average runoff rate was calculated for the New Basin. The same procedure was used to establish the runoff rates for the remaining basins in WCRO with one exception. The Yadkin Basin is based on only one site due to the size of its watershed in Virginia.

The runoff rates listed above for the basins lying wholly or partially within WCRO may be used for estimating 7Q10 flows for VPDES General Permits whose receiving stream(s) lie within the specific basin. The material provided herein shall not be used for any purpose other than screening acceptability of VPDES General Permits for discharge flows less than or equal to 1000 gallons per day.

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
Water Quality Assessments and Planning
629 E. Main Street P.O. Box 10009 Richmond, Virginia 23240

SUBJECT: General Permit Development
Critical Drainage Area and Runoff Rate - NRO

TO: Lily Choi, OWPP

FROM: Paul E. Herman, P.E., WQAP

DATE: April 2, 2001

COPIES: Durwood Willis, File

When reviewing the vast number of VPDES General Permits to be reissued and stream flows are needed in order to establish effluent limits, the following procedures should be considered prior to assigning flow frequencies to the receiving stream.

1. Locate the discharge point(s) on the topo map(s) and determine whether the receiving stream is perennial (solid blue line), tidal (evidence of tidal flats on the topo), intermittent (dotted/dashed blue line), or a dry ditch (no blue line).

2. If the discharge is to an intermittent stream or a dry ditch the flow frequencies are 0.0 cfs for the 1Q10, 7Q10, 30Q5, high flow 1Q10, high flow 7Q10, and harmonic mean. Use dilution ratios for discharges to tidal waters.

3. If the discharge enters a perennial stream, determine the major river basin to which the stream drains. The rivers considered as such for NRO are the Upper Potomac (HUC 02070008), Lower Potomac (HUC 02070010, 02070011), Upper Rappahannock, York, and James.

4. Once the river basin has been identified, determine the drainage area above the discharge point and multiply it by the runoff rate established for the basin. Basin runoff rates are listed below:

River Basin	7Q10 Runoff Rate (cfs/mi^2)
Upper Potomac	0.0134
Lower Potomac	0.0061
Rappahannock	0.015426
York	0.015434
James	0.0131

5. Using the established runoff rates provides an estimate of the receiving streams **7Q10**.

6. For a critical flow of 0.2 MGD (0.31 cfs) a critical drainage area has been established for each basin and is listed below:

River Basin	Critical Drainage Area (mi^2)
Upper Potomac	23.13
Lower Potomac	50.82
Rappahannock	20.096
York	20.086
James	23.66

The runoff rates for each basin were determined using data published in the USGS Water Supply Paper 2374 entitled "Low-Flow Characteristics of Streams in Virginia". The publication lists the low flow measurement sites in each basin and provides the sites drainage area and 2Q10 and 7Q10, and provides the continuous record gage used during the correlation.

The drainage area and 7Q10 for each low flow site in the portion of the basin encompassed by NRO's borders was used in establishing the runoff rates for the basin. For example, there are 25 low flow sites listed for the York River Basin in the publication. Of the 25, 14 lie within the NRO's borders. The runoff rates were determined for each of the 14 sites in NRO and an average runoff rate was calculated for the York Basin.

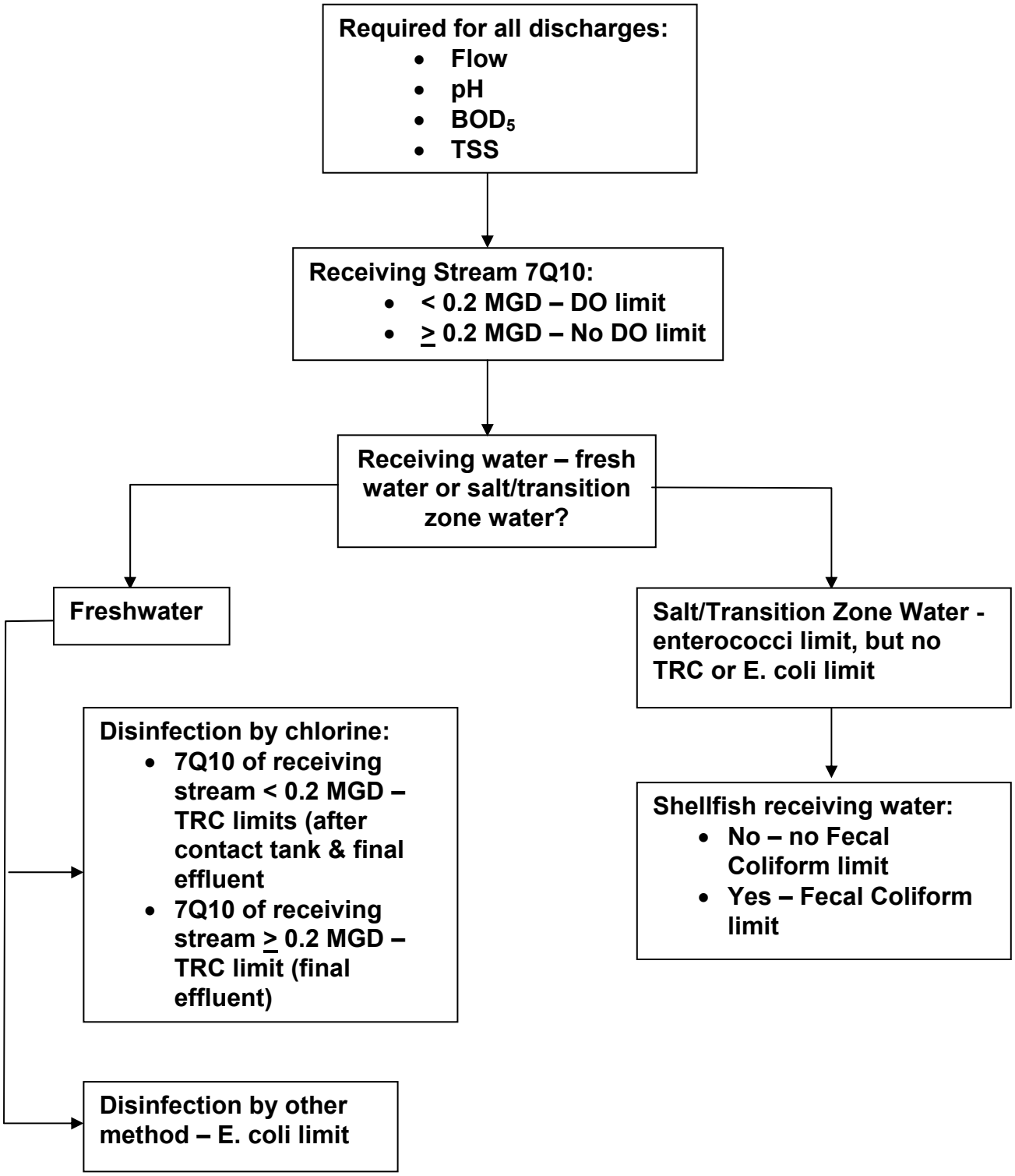
The runoff rates listed above for the basins lying wholly or partially within NRO may be used for estimating 7Q10 flows for VPDES General Permits whose receiving stream(s) lie within the specific basin. The material provided herein shall not be used for any purpose other than screening acceptability of VPDES General Permits for discharge flows less than or equal to 1000 gallons per day.

ATTACHMENT H

Monitoring Requirements – Decision Tree and 8 Monitoring Pages

VPDES General Permit for Domestic Sewage Discharges of Less Than or Equal to 1,000 GPD

Monitoring Requirements



MONITORING REQUIREMENTS FOR THE DISCHARGE FROM YOUR FACILITY

The purpose of this page is to provide you the monitoring requirements specific to the discharge from your facility based on information provided in your registration statement for the VPDES General Permit for Domestic Sewage Discharges of Less Than or Equal to 1,000 Gallons Per Day. You are not required to submit your monitoring results to the Department of Environmental Quality, but you are required to maintain them with your other facility records for inspection. Refer to Part I.A. 1-3 of the general permit for more specific information regarding effluent monitoring requirements.

These monitoring requirements apply when the receiving stream has a 7Q10 flow < 0.2 MGD, is a freshwater and is not a shellfish water; and the method of disinfection is chlorination.

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Instantaneous Minimum	Instantaneous Maximum	Frequency	Sample Type
Flow *	NA	NL	1/year	Estimate
pH (Standard Units)	6.0	9.0	1/year	Grab
BOD_5	NA	30 mg/l	1/year	Grab
Total Suspended Solids	NA	30 mg/l	1/year	Grab
Dissolved Oxygen	5.0	NA	1/year	Grab
Total Residual Chlorine - After Contact Tank	1.0 mg/l	NA	1/year	Grab
Total Residual Chlorine - Final Effluent	NA	0.016 mg/l	1/year	Grab

* The design flow of your treatment facility is less than or equal to 1,000 gallons per day.

MONITORING REQUIREMENTS FOR THE DISCHARGE FROM YOUR FACILITY

The purpose of this page is to provide you the monitoring requirements specific to the discharge from your facility based on information provided in your registration statement for the VPDES General Permit for Domestic Sewage Discharges of Less Than or Equal to 1,000 Gallons Per Day. You are not required to submit your monitoring results to the Department of Environmental Quality, but you are required to maintain them with your other facility records for inspection. Refer to Part I.A. 1-3 of the general permit for more specific information regarding effluent monitoring requirements.

These monitoring requirements apply when the receiving stream has a 7Q10 flow < 0.2 MGD, is a fresh water and is not a shellfish water; and the method of disinfection is other than chlorination.

EFFLUENT CHARACTERISTICS	**DISCHARGE LIMITATIONS**		**MONITORING REQUIREMENTS**	
	Instantaneous Minimum	**Instantaneous Maximum**	**Frequency**	**Sample Type**
Flow *	**NA**	**NL**	**1/year**	**Estimate**
pH (Standard Units)	**6.0**	**9.0**	**1/year**	**Grab**
BOD_5	**NA**	**30 mg/l**	**1/year**	**Grab**
Total Suspended Solids	**NA**	**30 mg/l**	**1/year**	**Grab**
Dissolved Oxygen	**5.0**	**NA**	**1/year**	**Grab**
E. coli	**NA**	**235/100 ml**	**1/year**	**Grab**

* The design flow of your treatment facility is less than or equal to 1,000 gallons per day.

MONITORING REQUIREMENTS FOR THE DISCHARGE FROM YOUR FACILITY

The purpose of this page is to provide you the monitoring requirements specific to the discharge from your facility based on information provided in your registration statement for the VPDES General Permit for Domestic Sewage Discharges of Less Than or Equal to 1,000 Gallons Per Day. You are not required to submit your monitoring results to the Department of Environmental Quality, but you are required to maintain them with your other facility records for inspection. Refer to Part I.A. 1-3 of the general permit for more specific information regarding effluent monitoring requirements.

These monitoring requirements apply when the receiving stream has a 7Q10 flow < 0.2 MGD, is a salt water or transition zone, and is not a shellfish water.

EFFLUENT CHARACTERISTICS	**DISCHARGE LIMITATIONS**		**MONITORING REQUIREMENTS**	
	Instantaneous Minimum	**Instantaneous Maximum**	**Frequency**	**Sample Type**
Flow *	**NA**	**NL**	**1/year**	**Estimate**
pH (Standard Units)	**6.0**	**9.0**	**1/year**	**Grab**
BOD_5	**NA**	**30 mg/l**	**1/year**	**Grab**
Total Suspended Solids	**NA**	**30 mg/l**	**1/year**	**Grab**
Dissolved Oxygen	**5.0**	**NA**	**1/year**	**Grab**
enterococci	**NA**	**104/100 ml**	**1/year**	**Grab**

* The design flow of your treatment facility is less than or equal to 1,000 gallons per day.

MONITORING REQUIREMENTS FOR THE DISCHARGE FROM YOUR FACILITY

The purpose of this page is to provide you the monitoring requirements specific to the discharge from your facility based on information provided in your registration statement for the VPDES General Permit for Domestic Sewage Discharges of Less Than or Equal to 1,000 Gallons Per Day. You are not required to submit your monitoring results to the Department of Environmental Quality, but you are required to maintain them with your other facility records for inspection. Refer to Part I.A. 1-3 of the general permit for more specific information regarding effluent monitoring requirements.

These monitoring requirements apply when the receiving stream has a 7Q10 flow < 0.2 MGD, is a salt water or transition zone, and is a shellfish water.

EFFLUENT CHARACTERISTICS	**DISCHARGE LIMITATIONS**		**MONITORING REQUIREMENTS**	
	Instantaneous Minimum	**Instantaneous Maximum**	**Frequency**	**Sample Type**
Flow *	**NA**	**NL**	**1/year**	**Estimate**
pH (Standard Units)	**6.0**	**9.0**	**1/year**	**Grab**
BOD_5	**NA**	**30 mg/l**	**1/year**	**Grab**
Total Suspended Solids	**NA**	**30 mg/l**	**1/year**	**Grab**
Dissolved Oxygen	**5.0**	**NA**	**1/year**	**Grab**
enterococci	**NA**	**104/100 ml**	**1/year**	**Grab**
Fecal coliform Bacteria	**NA**	**200/100 ml**	**1/year**	**Grab**

* The design flow of your treatment facility is less than or equal to 1,000 gallons per day.

MONITORING REQUIREMENTS FOR THE DISCHARGE FROM YOUR FACILITY

The purpose of this page is to provide you the monitoring requirements specific to the discharge from your facility based on information provided in your registration statement for the VPDES General Permit for Domestic Sewage Discharges of Less Than or Equal to 1,000 Gallons Per Day. You are not required to submit your monitoring results to the Department of Environmental Quality, but you are required to maintain them with your other facility records for inspection. Refer to Part I.A. 1-3 of the general permit for more specific information regarding effluent monitoring requirements.

These monitoring requirements apply when the receiving stream has a 7Q10 flow ≥ 0.2 MGD, is a freshwater and is not a shellfish water; and the method of disinfection is chlorination.

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Instantaneous Minimum	Instantaneous Maximum	Frequency	Sample Type
Flow *	NA	NL	1/year	Estimate
pH (Standard Units)	6.0	9.0	1/year	Grab
BOD_5	NA	30 mg/l	1/year	Grab
Total Suspended Solids	NA	30 mg/l	1/year	Grab
Total Residual Chlorine - Final Effluent	1.0 mg/l	2.0 mg/l	1/year	Grab

* The design flow of your treatment facility is less than or equal to 1,000 gallons per day.

Corrected 05-26-06

MONITORING REQUIREMENTS FOR THE DISCHARGE FROM YOUR FACILITY

The purpose of this page is to provide you the monitoring requirements specific to the discharge from your facility based on information provided in your registration statement for the VPDES General Permit for Domestic Sewage Discharges of Less Than or Equal to 1,000 Gallons Per Day. You are not required to submit your monitoring results to the Department of Environmental Quality, but you are required to maintain them with your other facility records for inspection. Refer to Part I.A. 1-3 of the general permit for more specific information regarding effluent monitoring requirements.

These monitoring requirements apply when the receiving stream has a 7Q10 flow ≥ 0.2 MGD, is a fresh water and is not a shellfish water; and the method of disinfection is other than chlorination.

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Instantaneous Minimum	Instantaneous Maximum	Frequency	Sample Type
Flow *	NA	NL	1/year	Estimate
pH (Standard Units)	6.0	9.0	1/year	Grab
BOD_5	NA	30 mg/l	1/year	Grab
Total Suspended Solids	NA	30 mg/l	1/year	Grab
E. coli	NA	235/100 ml	1/year	Grab

* The design flow of your treatment facility is less than or equal to 1,000 gallons per day.

MONITORING REQUIREMENTS FOR THE DISCHARGE FROM YOUR FACILITY

The purpose of this page is to provide you the monitoring requirements specific to the discharge from your facility based on information provided in your registration statement for the VPDES General Permit for Domestic Sewage Discharges of Less Than or Equal to 1,000 Gallons Per Day. You are not required to submit your monitoring results to the Department of Environmental Quality, but you are required to maintain them with your other facility records for inspection. Refer to Part I.A. 1-3 of the general permit for more specific information regarding effluent monitoring requirements.

These monitoring requirements apply when the receiving stream has a 7Q10 flow ≥ 0.2 MGD, is a salt water or transition zone, and is not a shellfish water.

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Instantaneous Minimum	Instantaneous Maximum	Frequency	Sample Type
Flow *	NA	NL	1/year	Estimate
pH (Standard Units)	6.0	9.0	1/year	Grab
BOD_5	NA	30 mg/l	1/year	Grab
Total Suspended Solids	NA	30 mg/l	1/year	Grab
enterococci	NA	104/100 ml	1/year	Grab

* The design flow of your treatment facility is less than or equal to 1,000 gallons per day.

MONITORING REQUIREMENTS FOR THE DISCHARGE FROM YOUR FACILITY

The purpose of this page is to provide you the monitoring requirements specific to the discharge from your facility based on information provided in your registration statement for the VPDES General Permit for Domestic Sewage Discharges of Less Than or Equal to 1,000 Gallons Per Day. You are not required to submit your monitoring results to the Department of Environmental Quality, but you are required to maintain them with your other facility records for inspection. Refer to Part I.A. 1-3 of the general permit for more specific information regarding effluent monitoring requirements.

These monitoring requirements apply when the receiving stream has a 7Q10 flow ≥ 0.2 MGD, is a salt water or transition zone, and is a shellfish water.

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Instantaneous Minimum	Instantaneous Maximum	Frequency	Sample Type
Flow *	NA	NL	1/year	Estimate
pH (Standard Units)	6.0	9.0	1/year	Grab
BOD_5	NA	30 mg/l	1/year	Grab
Total Suspended Solids	NA	30 mg/l	1/year	Grab
enterococci	NA	104/100 ml	1/year	Grab
Fecal coliform Bacteria	NA	200/100 ml	1/year	Grab

* The design flow of your treatment facility is less than or equal to 1,000 gallons per day.

ATTACHMENT I

Contact Information for VDH-ODW Field Offices and VDH-DSS

Contact Information for the Virginia Department of Health

Office of Drinking Water (ODW) Field Offices

Field Office	Counties and Cities Served
ABINGDON (Field Offc. 1) 454 East Main Street Abingdon, VA 242l0 Telephone: (276) 676-5650 Fax: (276) 676-5659	Bland, Buchanan, Carroll, Dickinson, Floyd, Giles, Grayson, Lee, Montgomery, Pulaski, Russell, Scott, Smyth, Tazewell, Washington, Wise, Wythe **Cities**: Bristol, Galax, Norton, Radford
CULPEPER (Field Office 6) 400 South Main St, 2nd Floor Culpeper, VA 2270l Telephone: (540) 829-7340 Fax: (540) 829-7337	Arlington, Caroline, Culpeper, Fairfax, Fauquier, King George, Loudoun, Madison, Orange, Prince William, Rappahannock, Spotsylvania, Stafford **Cities**: Alexandria, Fairfax, Falls Church, Fredericksburg, Manassas, Manassas Park
DANVILLE (Field Office 5) l347 Piney Forest Road Danville, VA 24540 Telephone: (434) 836-8416 Fax: (434) 836-8424	Amelia, Amherst, Appomattox, Bedford, Buckingham, Brunswick, Campbell, Charlotte, Cumberland, Franklin, Halifax, Henry, Lunenburg, Mecklenburg, Nottoway, Patrick, Pittsylvania, Prince Edward **Cities**: Bedford, Danville, Lynchburg, Martinsville
LEXINGTON (Field Office 2) l31 Walker Street Lexington, VA 24450-2431 Telephone: (540) 463-7136 Fax: (540) 463-3892	Albemarle, Alleghany, Augusta, Bath, Botetourt, Clarke, Craig, Frederick, Fluvanna, Greene, Highland, Louisa, Nelson, Page, Roanoke, Rockbridge, Rockingham, Shenandoah, Warren **Cities**: Buena Vista, Charlottesville, Clifton Forge, Covington, Harrisonburg, Lexington, Roanoke, Salem, Staunton, Waynesboro, Winchester
EAST CENTRAL (Field Office 4) 300 Turner Road Richmond, VA 23225 Telephone: (804) 674-2880 Fax: (804) 674-2815	Charles City, Chesterfield, Essex, Gloucester, Goochland, Hanover, Henrico, King and Queen, King William, Lancaster, Mathews, Middlesex, New Kent, Powhatan, Northumberland, Richmond, Westmoreland **Cities**: Richmond
SOUTHEAST (Field Office 3) 830 Southampton Ave. Rm. 2058 Norfolk, VA 23510 Telephone: (757) 683-2000 Fax: (757) 683-2007	Accomack, Dinwiddie, Greensville, Isle of Wight, James City, Northampton, Prince George, Southampton, Surry, Sussex, York **Cities**: Chesapeake, Colonial Heights, Emporia, Franklin, Hampton, Hopewell, Newport News, Norfolk, Petersburg, Poquoson, Portsmouth, Suffolk, Va. Beach, Williamsburg

Office of Environmental Health Services

Dr. Robert Croonenberghs, Director
Division of Shellfish Sanitation
109 Governor Street, 5th Floor
Richmond, VA 23219
Telephone: (804) 864-7480
Fax: (804) 864-7475